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Conception Following Successful Repair of Acquired Gynatresia from Female Genital Cutting After Three Failed Attempts

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Abstract

Gynatresia, characterised by partial or complete obliteration of the vaginal canal, may be congenital or acquired. The acquired form remains more prevalent in low- and middle-income countries, often following obstetric trauma, infection, or harmful traditional practices. We report the case of a nulliparous Nigerian woman in her early thirties who presented with a seven-year history of dyspareunia and infertility following female genital cutting in childhood. She had previously undergone three unsuccessful attempts at vaginal repair. Clinical evaluation confirmed acquired gynatresia, and she subsequently underwent successful vaginoplasty. Postoperatively, she experienced significant improvement in sexual function and overall quality of life. Eighteen months after surgery, she conceived spontaneously and was delivered of a healthy male infant at term via caesarean section. This case demonstrates that successful surgical correction of acquired gynatresia, even after multiple failed repairs, can restore vaginal patency and reproductive potential. It highlights the importance of specialised surgical care and long-term follow-up in affected women, particularly in resource-limited settings. There is need for longitudinal studies to better define fertility and obstetric outcomes following repair.

Keywords: Acquired Gynatresia, Female Genital Mutilation, Vaginoplasty, Nnewi

Introduction

Gynatresia, also referred to as vaginal stenosis, denotes the pathological constriction or complete closure of the vaginal canal, manifesting either congenitally or through acquired aetiologies [1]. Acquired gynatresia are seen more in low and middle income nations and the causative factors include female genital mutilation, chemical vaginitis stemming from herbal concoctions, the use of substances such as alum and potassium permanganate, complications during childbirth, colporrhaphies, traditional vulvo-vaginal incisions, and malignancies, among other contributors [2-4]. In high-income countries, there is more of congenital gynatresia, and less of the acquired type which almost always results from radiotherapy and surgical interventions [5,6].

This acquired gynaecological pathology assumes paramount significance in the domain of public health, warranting careful consideration [1]. The sequelae of gynatresia includes but not limited to dyspareunia and apareunia, often culminating in psycho-social distress and discordance among sexual partners. Infertility may ensue as a result of dyspareunia. Mortality is rare. Herein, we present a compelling case of a young woman who had acquired gynatresia following engagement in a deleterious cultural practice. This case underlines the imperative for targeted health education initiatives and interventions aimed at prevention and where possible, modification of cultural practices that adversely affect women's health.

Case Presentation

The reporting of this study conforms to the consensus-based clinical case reporting (CARE) guidelines [7]. A nullipara in early 30s, from Nigeria, sought consultation at the gynaecology outpatient clinic, presenting with a protracted history of dyspareunia and infertility spanning seven years. She has normal regular menstrual cycle with moderate flow. Clinical evaluation revealed pronounced dyspareunia assessed via the modified female sexual function index-6 (FSFI-6) questionnaire. Also, there was impeding penile penetration, with a pertinent history of female genital mutilation in early childhood. This has hindered penile penetration during intercourse. She has no history of antecedent vaginal instrumentation, trauma, caustic substance exposure, or herbal pessary utilization. No similar pathological conditions were reported within the familial context. Both partners gave a history of normal sexual libido, and the patient had no history of chronic medical conditions or surgical interventions.

Marital disharmony ensued after three years of dyspareunia and infertility. She had three failed corrective interventions (vaginoplasty) procedures at three different private hospitals, but none resulted in improvement. All three attempts were performed vaginally.

Vaginal examination revealed distinctive findings, notably the absence of the clitoris and the pinpoint introitus. She was adequately counselled and comprehensive laboratory and imaging investigations were carried out to aid the subsequent treatment. A collaborative multidisciplinary effort, involving gynaecologists, plastic surgeons, urologists, psychosexual counsellors, nurses, and anaesthesiologists, was instituted to execute a meticulous vaginoplasty under subarachnoid block.

In the theater, the patient was placed in the lithotomy position. Examination under anaesthesia revealed the absence of the clitoris, with the identification of a pinhole aperture at the apex of an exceedingly distorted vagina (Figure 1). This was extended upward through both sharp and blunt dissection, guided by a metallic catheter at the front and a finger along the front wall of the rectum. With further exploration of the stenosed section of the vaginal canal and advancement proximally, the proximal part of the vagina was reached, and the fibrosed tissues were carefully removed,

ensuring continuity with the rest of the vaginal tract. Subsequent blunt and sharp dissection facilitated the visualization of the cervix. Figure 2 is the image showing intraoperative tissue dissection during vaginoplasty. However, Figure 3 shows the visualization of the cervix following blunt and sharp dissection during vaginoplasty. (Figures 2 and 3). The tissue dissection during the surgery was challenging due to three previous unsuccessful surgical attempts. Subsequently, an indwelling Foley catheter was put, and an improvised mould, enveloped in gauze, condom, and sufratulle, was utilized to pack the vaginal cavity. Figure 4 is the improvised vaginal mould enveloped in gauze, condom, and sufratulle, was utilized to pack the vaginal cavity to prevent recurrence of gynatresia. The improvised vaginal mould was then held in place using an adhesive plaster to ensure it remained in situ (Figure 5).

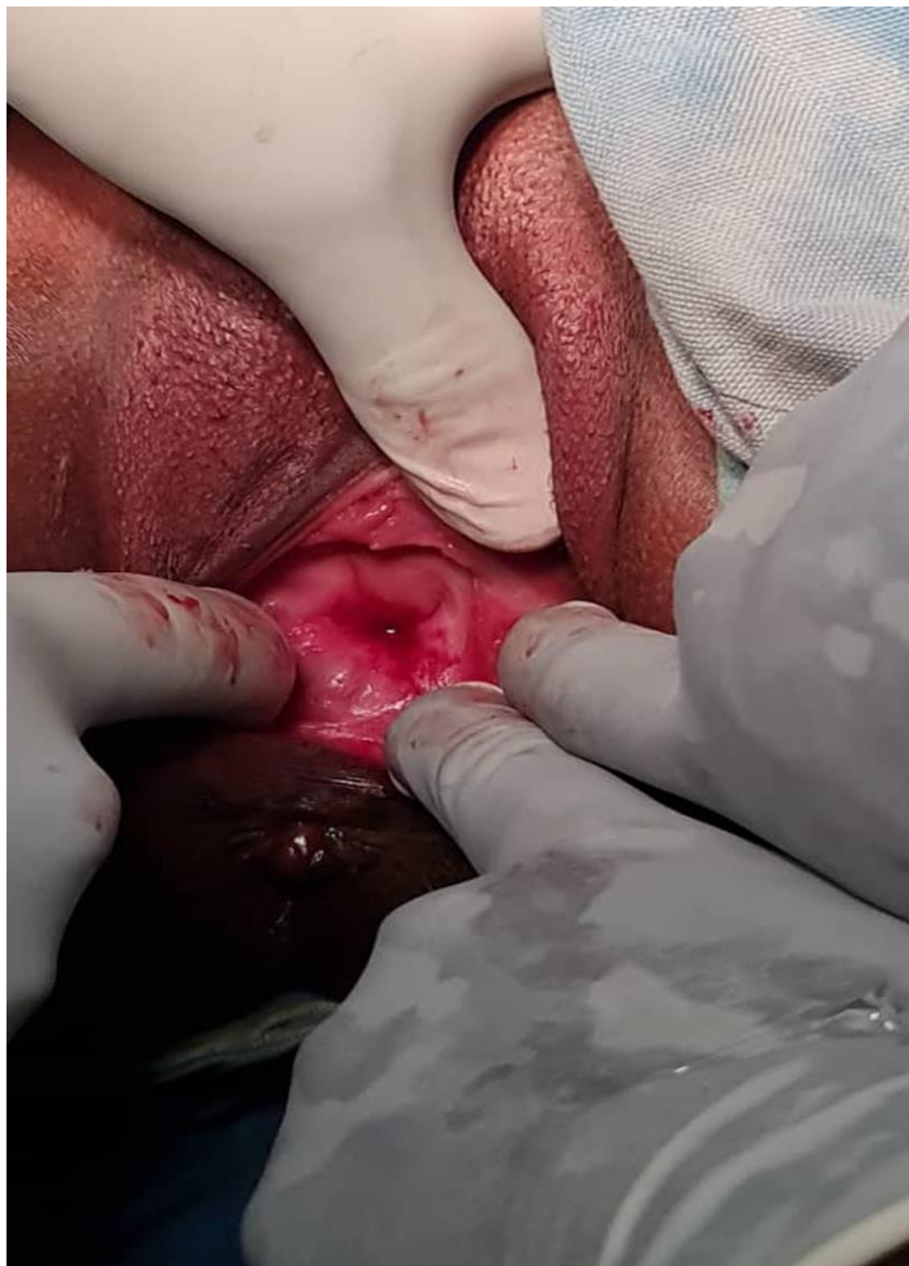

Figure 1: Image Showing Vaginal Stenosis with a Pin Hole Aperture at the Apex During Examination Under Anaesthesia, Prior to Vaginoplasty

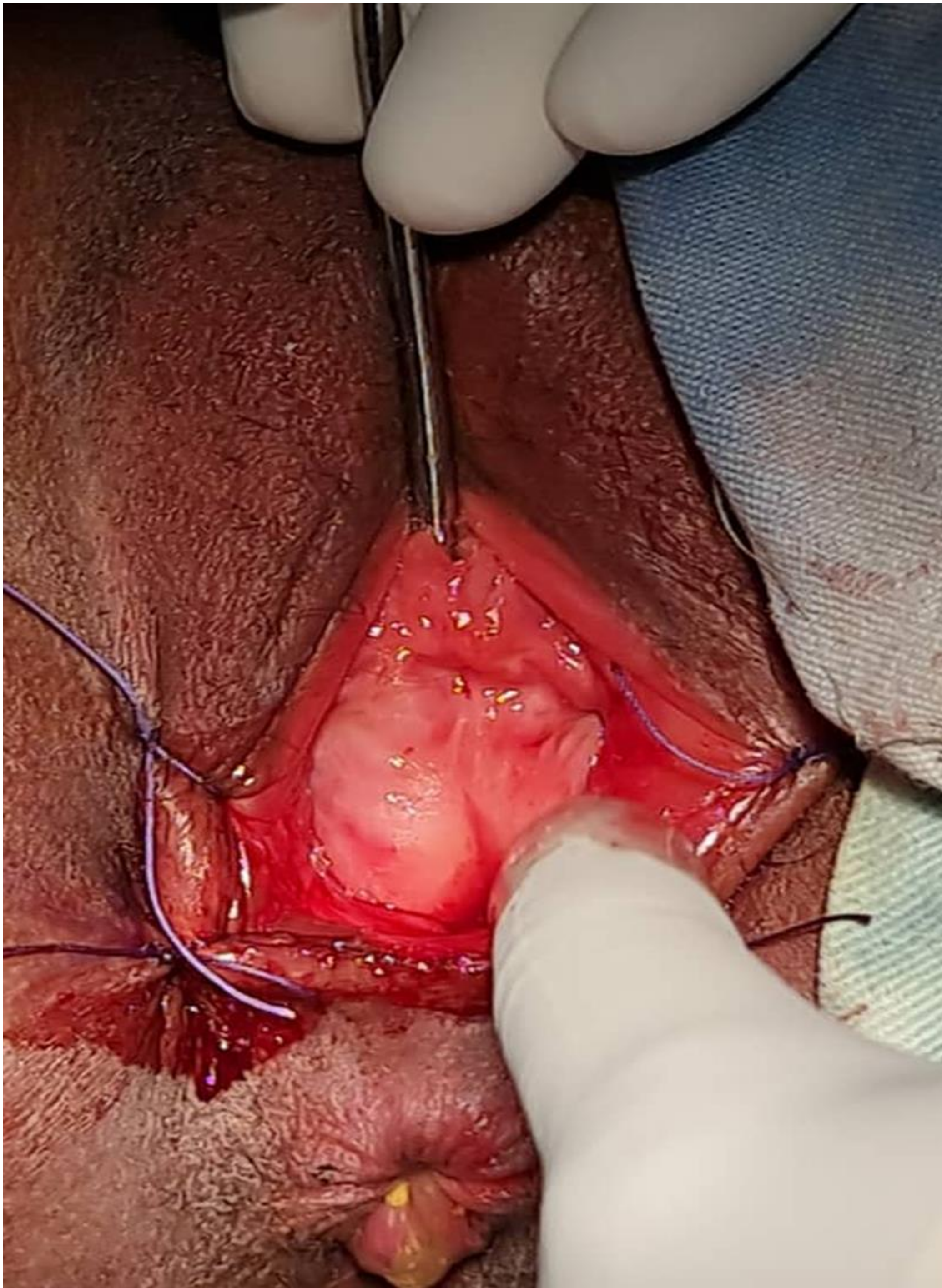

Figure 2: Image Showing Intraoperative Tissue Dissection During Vaginoplasty

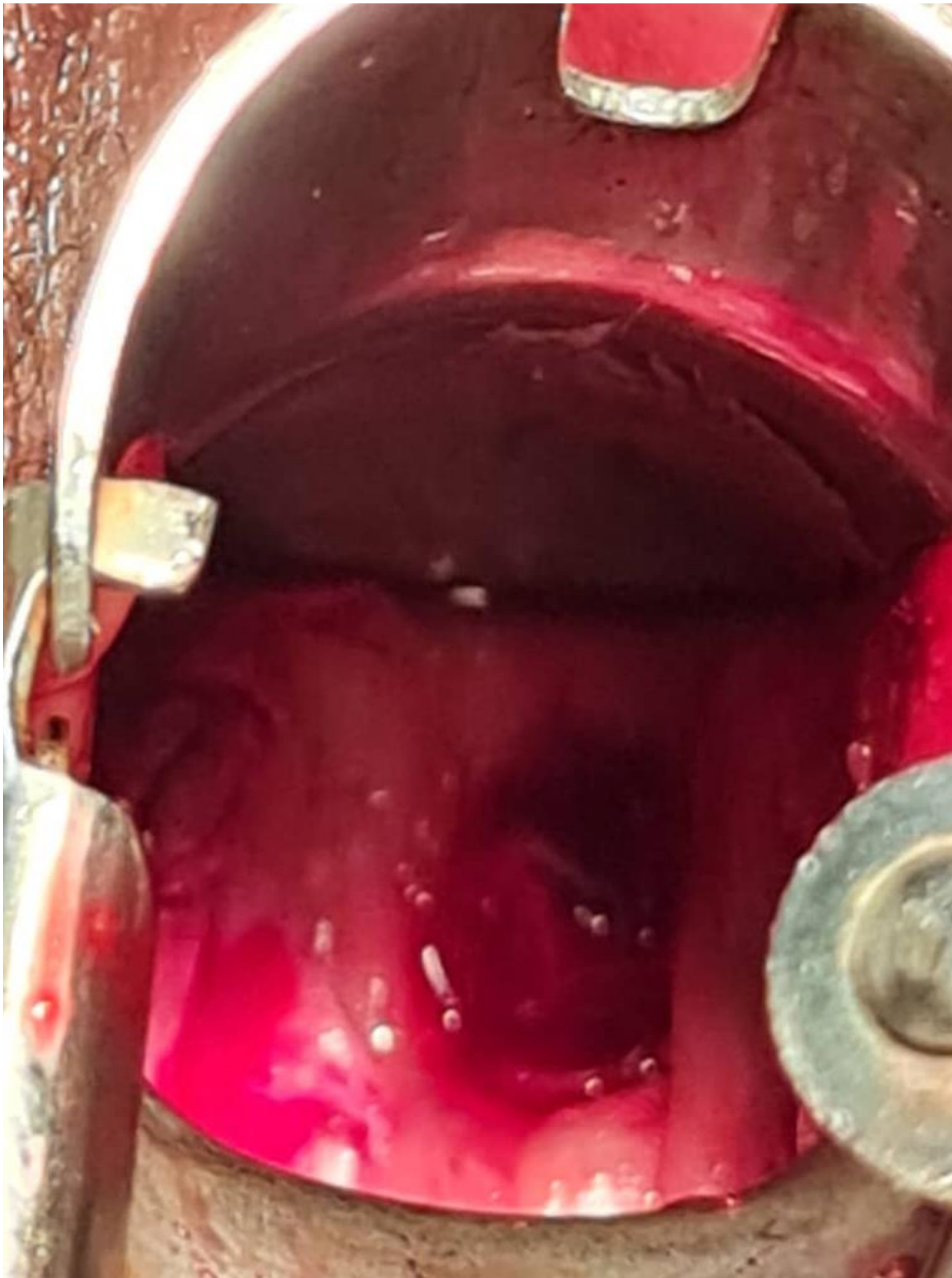

Figure 3: Visualization of the Cervix Following Blunt and Sharp Dissection During Vaginoplasty

Figure 4: Improvised Vaginal Mould Enveloped in Gauze, Condom, and Sufratulle, was Utilized to Pack the Vaginal Cavity to Prevent Recurrence of Gynetresia

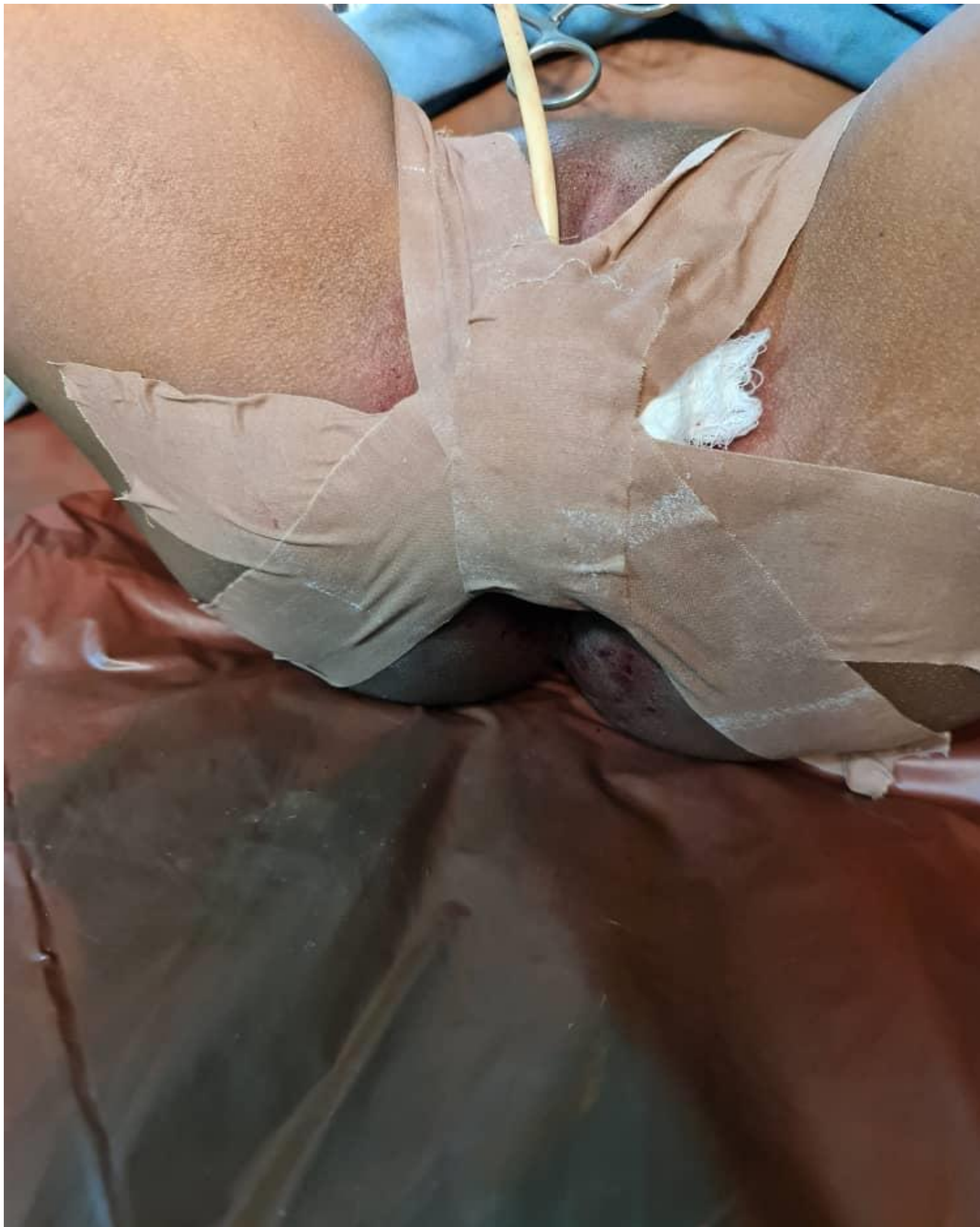

Figure 5: Image Showing Foley Urethral Catheter in Situ for Continuous Bladder Drainage and Plaster Holding the Improvised Vaginal Mould in Situ to Avoid Recurrence of Gynatresia

Postoperatively, the vaginal mould was changed every 48 hours and the patient received receiving intravenous antibiotics (ceftriaxone and metronidazole), rectal diclofenac, intramuscular pentazocine for analgesia, and haematinics. She was discharged on the 7th postoperative day and a follow-up visit was scheduled to hold a week after discharge, however, the patient did not keep to the appointment. Eighteen months after the surgery, she presented to the antenatal clinic for booking. Following the last surgery, she continued vaginal dilatation using dilators she procured and subsequently gained improved satisfaction with penile penetration during sexual intercourse. She had uneventful antepartum period, and an elective caesarean section at term. She was delivered of a live male neonate with good Apgar scores and birth weight of 2.9kg.

The success recorded in the treatment of this patient highlights the importance of multidisciplinary approach in complex and delicate cases as presented.

Discussion

Acquired gynatresia remains a significant gynaecological pathology in many low- and middle-income countries (LMICs), where harmful traditional and religious practices, unsupported myths, and unskilled interventions continue to prevail. While rare in high-income nations, its burden in sub-Saharan Africa, particularly Nigeria, is considerable. Reported incidences range from 3.5 to 7 per 1000 females, with higher prevalence among girls under five years and women aged 16–20 years in southeastern Nigeria, and between 20–30 years in the southwest [2].

In Africa, the major identified aetiological factor is the use of herbal or caustic vaginal pessaries, often containing potash and other locally prepared substances, which induce chemical vaginitis and heal with extensive fibrosis, resulting in vaginal stenosis [8]. Female genital mutilation (FGM) is another well-recognised cause, especially in southeastern Nigeria—where extensive excision and infibulation are more common than in other regions. The present case exemplifies this pattern: the patient developed secondary infertility and seven years of severe dyspareunia following childhood FGM. Other recognized causes of acquired gynatresia include obstetric trauma, pelvic radiotherapy, colporrhaphy, and vulval malignancy [2], while restrictive abortion laws in Nigeria have also been linked to the use of harmful intravaginal preparations intended to induce abortion, leading to fibrosis and vaginal stenosis [8–11].

Beyond the physiological consequences, acquired gynatresia profoundly affects marital harmony, emotional health, and social well-being. In the index case, chronic dyspareunia and infertility led to severe marital disharmony and financial strain, findings consistent with earlier literature that highlights the multidimensional impact of this condition [12,13].

The mainstay of management is surgical reconstruction. Several techniques have been described, including adhesiolysis, pudendal thigh or myocutaneous flaps, and intestinal vaginoplasty [10,14]. In this case, a multidisciplinary strategy involving gynaecologists, plastic surgeons, urologists, anaesthesiologists, nurses, and psychosexual counsellors was employed, culminating in successful vaginoplasty. This approach differs from that used by Ugburo et al., who reported pudendal thigh flap vaginoplasty for gynatresia secondary to herbal pessaries within a similar multidisciplinary context [14]. The chosen surgical pathway emphasized conservative but precise dissection, restoration of anatomical continuity, and postoperative maintenance of patency through regular vaginal moulding and dilatation.

Intraoperative findings of a near-occluded vaginal canal, reduced to a pinhole opening, illustrated the extent of fibrosis and underscored the challenges responsible for three previous failed repair attempts. This severe anatomical distortion complicates both surgical access and postoperative healing, predisposing to restenosis. The visual evidence in the current case reinforces the pathology's complexity and highlights the necessity of careful surgical planning, layered dissection, and adherence to postoperative care protocols [12–14].

To maintain patency after reconstructive surgery, an improvised vaginal mould wrapped in gauze, a condom, and sufratulle was inserted and securely held with adhesive plaster. This technique prevented restenosis and allowed progressive epithelialization. The device's design reflects creative resource adaptation in a resource-limited setting and builds upon earlier successful Nigerian experiences with similar moulds and favourable neonatal outcomes [12]. Continuous urinary bladder drainage with an indwelling Foley catheter further reduced postoperative infection risk and tissue adhesion. The critical determinant of long-term success was adherence to regular postoperative vaginal dilatation, a factor neglected in the patient's three earlier failed repairs.

This case report, underline the intricate and challenging journey of a Nigerian nulliparous woman who presented with a seven-year history of dyspareunia and infertility. Her condition stemmed from a harmful traditional practice involving the external genitalia performed during her childhood, leading to acquired gynatresia. This report highlights the significant impact of female genital cutting (FGC) on reproductive health and the potential for successful intervention even after multiple surgical failures.

This case illustrates several instructive points. First, it demonstrates that surgical success is attainable even after multiple failed attempts, confirming that expert technique combined with meticulous follow-up can restore functionality in complex gynatresia. Second, the patient's eventual spontaneous conception and term delivery following vaginoplasty

challenge long-held pessimism about fertility outcomes in women with genital tract damage due to FGM. The case further validates the reproductive potential of women after successful genital reconstruction, even in severe fibrosis. Third, it emphasizes the significance of individualized, patient-centred postoperative management, notably, structured counselling, regular dilator use, infection prevention, and sexual rehabilitation, to prevent restenosis and enhance quality of life [12]. Finally, the experience underscores the ingenuity required to achieve successful outcomes in resource-constrained environments, where cost-effective improvised devices can substitute for expensive commercial moulds without compromising results [12].

From a public health and clinical perspective, this report reinforces the necessity for preventive strategies centered on community education and socio-cultural reform to eradicate FGM and other harmful vaginal practices. At a systems level, multidisciplinary collaboration should be institutionalized for the management of complex gynaecological reconstructive cases, ensuring holistic care that addresses the anatomical, sexual, and psychological dimensions of rehabilitation [11-13].

Moreover, given the limited long-term follow-up data currently available, larger prospective longitudinal studies are needed to evaluate functional and reproductive outcomes after vaginoplasty for acquired gynatresia. Such research could inform standardised postoperative protocols and improve prognostic counselling for affected women.

Ultimately, this case demonstrates that even in severe acquired gynatresia secondary to FGM, comprehensive multidisciplinary intervention and diligent postoperative care can restore both sexual function and fertility. It offers compelling evidence that, despite prior surgical failures, successful conception and term delivery remain possible with adequate expertise, patient cooperation, and culturally sensitive health system support.

Conclusion

Acquired gynatresia remains an important yet preventable cause of infertility and sexual dysfunction in LMICs. Health promotion campaigns, gender-sensitive education, and legal enforcement against FGM are critical to reducing its incidence. This case illustrates that functional and reproductive restoration is achievable following expert surgical repair, even after repeated failures, reaffirming hope for affected women and underlining the transformative impact of multidisciplinary, patient-centred care.

Declarations

- **Authors Contributions:** GUE, GOU, TKN, BAO and CCO1 did the surgery and directed the report; CCO, CGO, AVE, NPO, ECE, NIU, MCA, UCC, CMO, GTI, WAM, SCE compiled and edited the pictures, CCM,NCO, EBA, IMK, CIE, OSN, AAM, TOO, CTE, IAE, IBE, OCE, CAO, ACE, JEM, CAO, OMO, and ONK wrote the manuscript. All the authors reviewed and approved of the final version of the manuscript.

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- **Consent for Treatment:** The patient gave consent for treatment.
- **Consent for Publication:** The authors have de-identified all patient details.
- **Ethical Approval:** Our institution does not require ethical approval for reporting individual cases or case series.
- **Availability of Data and Materials:** Data sharing is not applicable to this article as no datasets were generated or analysed during this study.

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